Manitoba Agriculture

FARM BUSINESS MANAGEMENT

Guidelines For Estimating

Swine (23 to 113 kg) Finishing Costs

Based On Marketing 11527 Pigs Sold

nformation Update

DATE: September, 2000

This publication is intended to provide a format and a set of guidelines for determining costs of production for a finishing 23-113 kg enterprise. This type of operation is intended to represent the third stage of a three stage pork production system. The three production stages are as follows: first stage-farrow to 5 kg, second stage-weaner pig (nursery) 5 to 23 kg, third stage-grower/finisher 23kg to market weight. The costs are estimates of production costs and not figures obtained from an actual survey of the hog industry in Manitoba. Adjustments will be necessary when applying these figures to your own enterprise. The assumptions on which the costs are based are outlined in the supporting pages. These assumptions were arrived at using the management practices, and facilities seen in modern, well-managed swine operations of comparable size in Manitoba. Productivity and performance assumptions are based on information collected by department specialists, feed companies and other organizations. Adjustments will be necessary where individual productivity and performance levels differ from those listed.

Accurate, up-to-date, production and financial records are essential for the effective application of these guidelines to an individual operation. Without such information accurate cost of production projections cannot be determined.

Swine (23 - 113 kg) Finishing Cost of Production

The following 23-113 kg budget is based on the assumption that all feed rations are purchased. The budget also includes a land investment cost based on the assumption that 160 acres would be required for this size operation, with 140 acres rented out at $25 per acre.

The budget includes an assumption that 1.5% of the market pigs are sold as lightweight pigs. It is assumed that when the lightweight pigs are sold, they will have a salvage value. Therefore, total marketings are reduced by 1% to compensate for the lightweight pigs.

The budget includes an assumption that this particular operation is "all-in, all-out" by room. Space allocations for finishing pigs are in accordance with the Recommended Code of Practice for the Care and Handling of Farm Animals: Pigs.

The rations illustrated in this budget are examples only.
Individual farm conditions should be taken into account when formulating the diets.
Producers need to know the feed intakes of their animals.
Please consult with a nutritionist for diet information suggestions.

The Manitoba pork production industry profile is changing and this budget was specifically designed to address the need of producers who may want to analyze the cost of starting up or switching to a finishing 23-113 kg operation. Several companies are offering contracts with varying levels of guarantees. Producers need to accurately calculate their costs before they can properly make a decision.

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Swine (23-113 kg) Finishing Cost of Production Summary

Operating Costs	$/Pig Sold	Total Cost	Your Cost
1. Feed Costs:			
1.01 Grower Ration #1	18.64	214,812	
1.02 Grower Ration #2	18.74	216,000	
1.03 Finisher Ration	22.19	255,816	
Total Feed Cost	**$59.57**	**$686,628**	
2. Other Operating Costs:			
2.01 Weanling Cost	62.29	718,003	
2.02 Veterinary Medicine & Supplies	1.65	19,000	
2.03 Maintenance & Repairs	0.93	10,672	
2.04 Hydro & Propane	0.43	5,000	
2.05 Insurance	0.65	7,501	
2.06 Manure Costs	2.15	24,829	
2.07 Office Supplies	0.10	1,188	
2.08 Marketing & Transport	5.59	64,437	
2.09 Property Tax	0.57	6,615	
Subtotal Operating Costs	$133.93	$1,543,873	
2.10 Interest on Operating Costs	2.64	30,444	
Total Operating Costs	**$136.57**	**$1,574,317**	
Fixed Costs			
3. Depreciation:			
3.01 Buildings & Manure Storage	2.38	27,390	
3.02 Equipment	3.27	37,654	
Total Depreciation Cost	**$5.64**	**$65,044**	
4. Investment:			
4.01 Land	0.30	3,500	
4.02 Buildings & Manure Storage	1.43	16,433	
4.03 Equipment	1.01	11,622	
Total Investment Cost	**$2.74**	**$28,055**	
Total Fixed Costs	**$8.38**	**$93,099**	
5. Labour			
Wages, benefits and hired manager	3.57	41,184	
Total Cost of Production	**$148.53**	**$1,708,600**	

Break-Even Price (carcass) [1]	**$/100 kg**	**$/cwt**	
Operating Cost	$135.65	$61.53	
Operating & Labour Cost	$139.20	$63.14	
Operating, Labour & Fixed Cost	$147.52	$66.91	

[1] Break-even Price = Cost per Hog Sold / (Slaughter Weight X Dressing Percentage X Index)

Swine (23-113 kg) Finishing Production Cost Assumptions

1. This input table outlines the cost of production for a finishing enterprise
2. Buildings and equipment are valued at new cost.
3. Purchased feed is used.
4. Manure haulage is contracted out.
5. Livestock values are based on a market price for pork of:

	$150.00	/100 kg	**110**	Market Index
or:	$0.68	/lb	**81**	% Dress

Indicators of Productivity

	Grower 1	Grower 2	Finish	Total
Number of Pigs Purchased	**12,000**	11,880	11,761	12,000
Average Beginning Weight (kg)	**23.0**	50.0	80.0	23
Average Ending Weight (kg)	**50.0**	**80.0**	**113.0**	113
Percent Mortality	**1.00**	**1.00**	**1.00**	3.00
Days on Feed	**24**	**48**	**43**	115
Feed Conversion Ratio	**2.60**	**3.00**	**3.40**	3.03
Number of Pigs (Ending)	11,880	11,761	11,644	11,644
Weight Gain/Pig (kg)	27.0	30.0	33.0	90.0
Feed Disappearance/Pig (kg)	70.2	90.0	112.2	272.4
Average Daily Gain (kg)	1.125	0.625	0.762	0.781
Average Number Pigs in Barn	4,001	3,961	3,921	3,961

Productivity Profile

	Total		
Pigs Purchased	12,000		
Pigs Died	360	3.0	% mortality
Pigs available for marketing	11,644		
Less Light Weight Pig Adjustment	116	**1.00**	%
Pigs Sold at full market value	11,527		
Washing and restocking days	**7**		
Total Days to Market	122		
Turnover (365 / days to market)	2.98		

Feed Requirements and Costs

			Ration Cost		
	FCR *	kg/pig	Purchased	Home-Mixed	
Grower 1 Ration	2.60	70.2	**$255.00**	$0.00	/tonne
Grower 2 Ration	3.00	90.0	**$200.00**	$0.00	/tonne
Finish Ration	3.40	112.2	**$190.00**	$0.00	/tonne

*** FCR = Feed Conversion Ratio (Feed:Gain)**

Labour

Total Hours per year	**66.0**	hours/week	3,432	hours/year
Wage (includes hired manager)	**$12.00**	/hour (weighted)		

Capital Investment[1]

4,000 Pig Places

		/sq.ft	Total	/Pig Place	Your Cost
Buildings					
Barn	36,800 ft.^{2}	**$14.20**	$522,560	$130.64	
Office & Loading	200 ft.^{2}	**$25.00**	$5,000	$1.25	
Standby Generator			$20,000	$5.00	
Feed Mill (building only)			**$0**	$0.00	
Total Building Cost			**$547,560**	**$136.89**	
Equipment					
Finishing Barn			$391,600	$97.90	
Other			$0	$0.00	
Fire Alarm System			$1,000	$0.25	
Storage Bins			$30,000	$7.50	
Feed Mill (equipment only)			**$0**	$0.00	
Total Equipment Cost			**$422,600**	**$105.65**	
Total Buildings and Equipment Cost			**$970,160**	**$242.54**	
Land Value					
Land Investment	**160** acres @ **$500**		**$80,000**	**$20.00**	
Rental Income	**140** acres @ **$25**				
Other Costs					
Site preparation			**$30,000**	$7.50	
Manure Storage			**$55,000**	$13.75	
Total Other Costs			**$85,000**	**$21.25**	
Total Capital Investment			**$1,135,160**	**$283.79**	

[1] FOOTNOTE: The number of square feet in the building and the cost per square foot for buildings and equipment are approximations only. A certified building plan which is designed according to the average inventory of grower-finisher pigs should be used in order to get the exact dimensions and area for new buildings.

NOTE: 1 sq.ft. = 0.0929 sq.m; 1 sq.m.= 10.764 sq.ft.; 1 ft.= 0.3048 m

Feed Ingredient Costs

	Price/tonne	Your Cost
Barley	$108.00	_____
Corn	$120.00	_____
Soybean Meal - 47 %	$315.00	_____
Grower/Finish Micro Premix	$2,400.00	_____
Canola Oil	$920.00	_____
Limestone	$65.00	_____
Phosphorous (16-21)	$465.00	_____
Salt - 96%	$120.00	_____
L-Lysine HCL	$2,550.00	_____
L-Threonine	$6,100.00	_____
		_____
Processing Cost		_____
(Hydro, Repairs/Maintenance & Insurance)	$3.25	_____
Percent Weight loss due to processing	1.25 %	_____
Labour Cost	$4.00	_____

Ration Formulas

	Grower #1 Ration (kg)	Grower #2 Ration (kg)	Finisher Ration (kg)
Barley	431.8	664.9	859.2
Corn	320.0	130.6	0.0
Soybean Meal - 47 %	213.0	171.6	111.6
Grower/Finish Micro Premix	5.0	3.0	3.0
Canola Oil	10.0	10.0	10.0
Limestone	10.2	10.4	8.9
Phosphorous (16-21)	6.7	6.3	3.9
Salt - 96%	2.2	2.2	2.2
L-Lysine HCL	1.0	1.0	1.0
L-Threonine	0.1	0.1	0.1
Total	1,000.0	1,000.0	1,000.0

Feed Requirement and Cost Summary

Grower Ration #1:	Amount (kg)	Ingredient Price ($ /tonne)	Ration Cost ($ /tonne)	Your Cost
Barley	431.8	$108.00	$46.63	
Corn	320.0	$120.00	$38.40	
Soybean Meal - 47 %	213.0	$315.00	$67.10	
Grower/Finish Micro Premix	5.0	$2,400.00	$12.00	
Canola Oil	10.0	$920.00	$9.20	
Limestone	10.2	$65.00	$0.66	
Phosphorous (16-21)	6.7	$465.00	$3.12	
Salt - 96%	2.2	$120.00	$0.26	
L-Lysine HCL	1.0	$2,550.00	$2.55	
L-Threonine	0.1	$6,100.00	$0.43	
Total	**1,000.0 kg**		**$180.35**	
Adjusted For Weight Loss		1.25 %	$182.60	
Plus Processing Cost		$3.25	$185.85	
Plus Labour Cost		$4.00	**$189.85**	

Grower Ration #2:				
Barley	664.9	$108.00	$71.80	
Corn	130.6	$120.00	$15.67	
Soybean Meal - 47 %	171.6	$315.00	$54.06	
Grower/Finish Micro Premix	3.0	$2,400.00	$7.20	
Canola Oil	10.0	$920.00	$9.20	
Limestone	10.4	$65.00	$0.67	
Phosphorous (16-21)	6.3	$465.00	$2.92	
Salt - 96%	2.2	$120.00	$0.26	
L-Lysine HCL	1.0	$2,550.00	$2.55	
L-Threonine	0.1	$6,100.00	$0.79	
Total	**1,000.0 kg**		**$165.12**	
Adjusted For Weight Loss		1.25 %	$167.18	
Plus Processing Cost		$3.25	$170.43	
Plus Labour Cost		$4.00	**$174.43**	

Finisher Ration:				
Barley	859.2	$108.00	$92.80	
Corn	0.0	$120.00	$0.00	
Soybean Meal - 47 %	111.6	$315.00	$35.16	
Grower/Finish Micro Premix	3.0	$2,400.00	$7.20	
Canola Oil	10.0	$920.00	$9.20	
Limestone	8.9	$65.00	$0.58	
Phosphorous (16-21)	3.9	$465.00	$1.82	
Salt - 96%	2.2	$120.00	$0.26	
L-Lysine HCL	1.0	$2,550.00	$2.55	
L-Threonine	0.1	$6,100.00	$0.73	
Total	**1,000.0 kg**		**$147.02**	
Adjusted For Weight Loss		1.25 %	$148.86	
Plus Processing Cost		$3.25	$152.11	
Plus Labour Cost		$4.00	**$156.11**	

Swine Finishing Production Cost Worksheet

A. Operating Costs			Your Cost
1. Feed Requirements and Costs			
1.01 Grower Ration #1			
	27.0	weight gain/pig	
x	2.6	feed conversion ratio	
=	70.2	kg ration/pig	
x	$255.00	/tonne ration	
÷	1,000	kg/tonne	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$18.64**	**/pig sold**	
1.02 Grower Ration #2			
	30.0	weight gain/pig	
x	3.0	feed conversion ratio	
=	90.0	kg ration/pig	
x	$200.00	/tonne ration	
÷	1,000	kg/tonne	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$18.74**	**/pig sold**	
1.03 Finisher Ration			
	33.0	weight gain/pig	
x	3.4	feed conversion ratio	
=	112.2	kg ration/pig	
x	$190.00	/tonne ration	
÷	1,000	kg/tonne	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$22.19**	**/pig sold**	
2. Other Operating Costs			
2.01 Weanling Cost			
	$68.04	market price	
x	1.7	formula factor	
x	50	lbs	
÷	$2.00	hauling in cost	
x	12,000	weanlings purchased	
÷	11,527	pigs sold	
=	**$62.29**	**/pig sold**	

2.02 Veterinary Cost

	$1,000.00	professional services	
+	$18,000.00	medication	
+	11,527	pigs sold	
=	**$1.65**	**/pig sold**	

2.03 Maintenance & Repairs

	1.10	% of total capital investment	
x	$970,160	total buildings and equipment cost	
÷	11,527	pigs sold	
=	$0.93	**/pig sold**	

2.04 Utilities

	$5,000	hydro	
+	$5,000	propane	
÷	11,527	pigs sold	
=	**$0.43**	**/pig sold**	

2.05 Insurance

	$970,160	buildings & equipment	
x	$0.46	/$100	
+	100	/$100 capital	
÷	11,527	pigs sold	
=	$0.39	/pig sold	
	3,961	average pigs in barn	
x	$118.00	average value	
x	$0.65	/$100	
+	100	/$100 capital	
÷	11,527	pigs sold	
=	$0.26	/pig sold	
=	**$0.65**	**/pig sold**	

2.06 Manure Costs

Haulage	7.1	litres/pig/day	
x	365	days/year	
x	3,961	average inventory of pigs	
x	$0.002	/litre	
÷	11,527	pigs sold	
=	$1.78	/pig sold	

Odour control			
	$4,300	total cost	
	11,527	pigs sold	
	$0.37	**/pig sold**	
Total	**$2.15**	**/pig sold**	

2.07 Office Supplies

	$0.30	/pig place	
x	3,961	pig places	
÷	11,527	pigs sold	
=	**$0.10**	**/pig sold**	

2.08 Marketing & Transportation

	$2.50	trucking	
+	$0.85	universal levy	
+	$0.04	grading charge	
+	$0.65	truck washing	
+	$0.85	insurance	
+	$0.70	marketing levy	
=	**$5.59**	**/pig sold**	

2.09 Property Taxes

	$6,615	taxes	
÷	11,527	pigs sold	
=	**$0.57**	**/pig sold**	

2.10 Interest on Operating Cost

	$51.53	weaner cost	
x	122	total days to market	
x	8.50	% operating rate	
÷	365	days/year	
=	$1.47	/pig sold	
	$133.93	subtotal operating cost	
-	$51.53	weaner cost	
+	2	average	
x	122	total days to market	
÷	365	days/year	
x	8.50	% operating rate	
=	$1.17	/pig sold	
=	**$2.64**	**/pig sold**	

B. Fixed Costs

3. Depreciation

$$\frac{\text{Original cost - Salvage Value}}{\text{Useful Life}}$$

3.01 Buildings

	$602,560	total building cost (including earthen manure storage)	_____
-	$54,756	salvage value (building only)	_____
+	20	years useful life	_____
+	11,527	pigs sold	_____
=	**$2.38**	**/pig sold**	_____

3.02 Equipment

	$422,600	total equipment cost	_____
-	$42,260	salvage value	_____
+	10	years useful life	_____
+	11,527	pigs sold	_____
=	**$3.27**	**/pig sold**	_____

4. Investment Cost

$$\frac{\text{(Original Cost + Salvage Value)}}{2} \times \text{Investment Rate}$$

4.01 Land

	$80,000	land investment	_____
x	5.00	% investment rate	_____
=	$4,000	investment cost	_____
-	$3,500	rental income	_____
+	11,527	pigs sold	_____
=	**$0.30**	**/pig sold**	_____

4.02 Buildings

	$602,560	total building cost (including earthen manure storage)	_____
+	$54,756	salvage value (building only)	_____
+	2	average	_____
x	5.00	% investment rate	_____
+	11,527	pigs sold	_____
=	**$1.43**	**/pig sold**	_____

4.03 Equipment

	$422,600	total equipment cost	_____
+	$42,260	salvage value	_____
÷	2	average	_____
x	5.00	% investment rate	_____
÷	11,527	pigs sold	_____
=	**$1.01**	**/pig sold**	_____

5. Labour Cost

	3432	total hours/year	_____
x	$12.00	/hour	_____
÷	11,527	pigs sold	_____
=	**$3.57**	**/pig sold**	_____

Summary of Purchased Feeds Used

11,644 Pigs available for marketing (includes lightweights)

	Total per Pig Mkt (kgs)	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig Mkt (lbs)
Grower 1 Ration	70.20	817.38	68.11	154.76
Grower 2 Ration	90.00	1,047.92	87.33	198.41
Finish Ration	112.20	1,306.41	108.87	247.36
Total	**272.40**	**3,171.71**	**264.31**	**600.53**

Summary of Home Mixed Feed Ingredients Used

	Total per Pig (kgs)	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (lbs)
Barley	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00
Soybean Meal - 47 %	0.00	0.00	0.00	0.00
Grower Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	0.00
Limestone	0.00	0.00	0.00	0.00
Phosphorous (16-21)	0.00	0.00	0.00	0.00
Salt - 96%	0.00	0.00	0.00	0.00
L-Lysine HCL	0.00	0.00	0.00	0.00
L-Threonine	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**

For further information contact your local Manitoba Agriculture and Food office.

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